

Amendments to the Claims:

1. (Currently Amended) A transmission cable, for use in a magnetic resonance apparatus, the transmission cable comprising:
a plurality of at least three cable segments; and
a plurality of electroacoustic couplers for providing which provide electrical
5 connection between adjacent cable segments.
2. (Currently Amended) A transmission cable ~~as set forth in claim 1~~
~~further for use in a magnetic resonance apparatus, the transmission cable~~ comprising:
a plurality of cable segments; and
a first mixer disposed at a first end of the cable for shifting a signal frequency
5 associated with the electroacoustic couplers.
3. (Previously Presented) A transmission cable as set forth in claim 2
further comprising:
a second mixer disposed at a second end of the cable for shifting a signal
frequency associated with the electroacoustic couplers.
4. (Currently Amended) A transmission cable ~~as set forth in claim 1 for~~
~~use in a magnetic resonance apparatus the transmission cable~~ comprising:
a plurality of cable segments; and
a plurality of electroacoustic couplers for providing electrical connection
5 between segments,
wherein each cable segment comprises a first conductor and a second
conductor and each of the first and second conductors is connected to at least one
electroacoustic coupler.
5. (Previously Presented) A transmission cable as set forth in claim 1
wherein each electroacoustic coupler comprises:
a substrate;
a first set of conductive fingers disposed on the substrate; and
5 a second set of conductive fingers disposed on the substrate whereby an
acoustic signal is passed from the first set of conductive fingers to the second set of conductive
fingers.

6. (Currently Amended) An MR apparatus comprising:
a first magnet system for generating a main magnetic field in an examination region;
an RF coil disposed in the examination region for transmitting and/or receiving
5 RF signals to and/or from the examination region; and
a plurality of transmission cables for carrying signals with the MR system, at least one of the transmission cables comprising a plurality of at least three cable segments and a plurality of electroacoustic couplers for coupling adjacent cable segments.
7. (Previously Presented) A MR apparatus as set forth in claim 6 wherein the at least one transmission cable further comprises a first mixer disposed at a first end of the cable for shifting a signal frequency associated with the electroacoustic couplers.
8. (Previously Presented) A MR apparatus as set forth in claim 7 wherein the at least one transmission cable further comprises a second mixer disposed at a second end of the cable for shifting a signal frequency associated with the electroacoustic couplers.
9. (Previously Presented) A MR apparatus as set forth in claim 6 wherein each cable segment comprises a first conductor and a second conductor and each of the first and second conductors is connected to at least one electroacoustic coupler.
10. (Previously Presented) A MR apparatus as set forth in claim 6 wherein each electroacoustic coupler comprises:
a substrate;
a first set of conductive fingers disposed on the substrate; and
5 a second set of conductive fingers disposed on the substrate whereby an acoustic signal is passed from the first set of conductive fingers to the second set of conductive fingers.
11. (Currently Amended) A transmission cable for use in a magnetic resonance apparatus, the transmission cable comprising:
~~a plurality of at least first, second, and third cable segments; and~~
~~a plurality of couplers each of first coupler~~ which transforms a first signal
5 carried by a first cable segment into [[an]] a first acoustic signal and from the first acoustic signal into a second signal carried by a second cable segment; and

a second coupler which transforms the second signal carried by the second cable segment into a second acoustic signal and from the second acoustic signal into a third signal carried by the third cable segment.

12. (Original) A transmission cable as set forth in claim 11 wherein each coupler has a high impedance for a common mode wave on the cable.

13. (Original) A transmission cable as set forth in claim 11, wherein the cable has a first end and a second end, wherein a mixer is disposed at each of the first and second ends for shifting a frequency of a signal transmitted by the cable.

14. (Currently Amended) An MR compatible catheter apparatus comprising:

a catheter;

a preamplifier; and

5 a transmission cable as set forth in claim 1 disposed between the catheter and the preamplifier[~~the transmission cable comprising a plurality of segments and a plurality of electroacoustic couplers for coupling signals between adjacent cable segments.~~]

15. (New) An MR compatible catheter apparatus comprising:

a catheter;

a preamplifier; and

5 the preamplifier.
a transmission cable as set forth in claim 11 disposed between the catheter and